

Index to 1974 articles

An issue-by-issue article index for the convenience of those who may not have received all issues during 1974. Back copies, when available may be secured at a cost of \$1.50 each.

Vol. 9 No. 1 January/February

Hydrogen's potential use as an automotive fuel 23

Billings Energy Research recently handed over to reporters the keys to a hydrogen-powered Chevrolet and let them judge the potential of this alternate energy source. While there are still hurdles to be jumped, this company's president says a strong and immediate push could make the day of hydrogen-fueled autos arrive reasonably soon.

MHD: A realistic solution to the energy crisis 15

This report, compiled by New York economic consulting firm Lionel D. Edie & Company, says the economics of this power generation method justify further funding, emphasis and support by government, utilities, coal producers and other suppliers to utilities.

Oxygen and environment: On to bigger things 26

Oxygen has proven itself in sewage treatment, and Union Carbide Corp. looks to put it to use on a larger scale to help reverse decay of some 800,000 ailing lakes if early test results show the anticipated promise.

Vol. 9 No. 2 March/April

Cryogenic Technology, News from CSA 10

Executive Secretary Ray Fletcher reflects on a year with the Cryogenic Society of America, what it is, and where it is going. Also, news from some chapters.

"Free energy" with ambient vaporizers and superheaters 24

The cryogenic industry is looking more than ever at the promise of "free energy" from the atmosphere and waters. Ambient temperatures range around 0° to 100°F. and "commercial" cryogens boil at -150° to -320°F., providing there is a good thermal driving force. R. E. Bernert of Thermex, Inc. discusses the problems encountered from there.

Improve cryogenic plant compressor performance 17

The key to cryogenic process plant operating efficiency is the compressor complex. Reliability and performance of this equipment, whether reciprocating or centrifugal, will determine the downtime and product loss at the facility. Consulting editor W. M. Kauffmann gives a systematic checklist of trouble spots and how to head them off.

Oxygen system cleaning requirements—Part II 29

Part II and conclusion of an article begun in the November/December issue discussing how government and industry clean and verify cleanliness of oxygen systems.

Vol. 9 No. 3 May/June

1974 Data Book & Buyers Guide

Vol. 9 No. 4 July/August

Cryogenic grinding gives process flexibility 27

Cryogenic grinding has been around for years, but its application is still relatively untapped in many fields where its utilization could provide the efficiency and flexibility demanded by today's standards.

Helium usage in large gas-cooled reactors 15

There are several advantages in using a gas in general, and helium in particular as a coolant for nuclear reactors. A gas coolant permits high operating temperatures at moderate pressures resulting in an optimization of pressure, temperature and flow-rate. Gaseous coolants restrict the possibility of a complete loss of coolant accident since they do not change phase.

Liquid gas measurement and temperature compensation 21

The liquid gas industry, and transport industries in particular, require an accurate, practical and reasonably economical method to measure the total mass through-

put of cryogenic fluids to accurately determine production cost. A method gaining wide acceptance in this area is combining the electronic output of a reliable volumetric flow meter with continual temperature readings to automatically introduce a coefficient of expansion correction.

News & briefs 5

CRYO '74 slated . . . Largest swivel joint for cryogenic applications . . . Oxygen seen as air cleanser in pulping . . . Stronger materials through cryogenic fabrication . . . World's largest oxygen plant . . . Cryogenic process recycles used auto tires.

Vol. 9 No. 5 September/October

Delmarva: Accounting for energy reserves 15

Put into operation late last year, this liquefaction and vaporizing facility at Wilmington, DE can supply up to 50 MM scf a day. Key part of the extensive instrumentation is gas flow metering of four feed and exit pipelines.

Directory of LNG Equipment and Services Suppliers 29

Energy utilization and safety aspects of shipboard cryogenics 27

This paper, presented at the 1973 symposium and exhibition of the Cryogenic Society of America concludes that, "If accomplished in a positive, objective and safe manner our energy demands will be met and these new energy sources will no longer be the subject of public hysteria."

LNG Products and Services Buyers Guide 32

Refrigeration turbocompressors for base load LNG plants 18

This article compares various mixed refrigerant liquefaction cycles from the compressor manufacturer's viewpoint, highlighting the significant considerations applicable in matching machinery and cycle. Our thanks to Sulzer Technical review and BST Brown Boveri-Sulzer Turbomachinery, Ltd.

Vol. 9 No. 6 November/December

Hydrogen-fueled aircraft: What's between research and reality? 13

There's work needed on fuel system design and fuel handling procedures, but liquid hydrogen doesn't require formidable changes in aircraft engine design. Dwindling fossil fuel reserves, coupled with the prospect of cheaper methods of making electricity may make hydrogen fueled aircraft economically feasible by the turn of the century. Here's a look at work which has been completed.

Hydrogen and methane bibliographies 19

Even if your interests are earth-bound, the bibliographies accompanying the preceding article are well worth adding to your reference files.

Cryogenic rupture disc design 20

Here's a rundown of test results of various types of rupture discs for ultra-low temperature service.

Design criteria and recommended practices for passive rupture discs 21

Use this in the design, evaluation or selection of passive discs and for recommendations as to how to effectively fulfill the criteria.

Cryogenic Technology—News from the Cryogenic Society of America 25

President Booth solicits CSA members and CIG readers' thoughts on plans to expand the Society's scope and cooperation; Technical director Vance explains what the CSA can do for you. A membership form is included.

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